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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/702,415 | 11/06/2003 | Lester F. Ludwig | 2152-3030 | 8353 |

35884 7590 07/31/2007

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| EXAMINER | |
|---|---|
| FLETCHER, MARLON T | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2837 | |

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|---|---|
| 07/31/2007 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

TH

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/702,415 | LUDWIG, LESTER F. | |
| | Examiner | Art Unit | |
| | Marlon T. Fletcher | 2837 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *06 November 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-50* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-50* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Specification*

The substitute specification filed 08/23/2004 has not been entered because it does not conform to 37 CFR 1.125(b) and (c) because: the additional subject matter added on pages 3 and 4 are used to support the claims. If the claims provide new subject matter which was not supported by the parent application, then the application should be filed as a C.I.P. (continuation-in-part). However, if the claims and the subject matter on pages 3 and 4, are not additional subject matter, then support should be pointed out in the specification to support as proof that these passages are merely rewritten based on subject matter found in the parent application. Please point out the support, so that the substitute specification may be entered.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 2, 4, 7-9, 11-27, 29, 32-34, and 36-50, are rejected under 35 U.S.C. 103(a) as being unpatentable over Levine (5,848,164) in view of Okamura et al. (5,652,797).

Levine discloses a system for enriching timbre of audio signals by adding swelling resonance, twang, or both, said system comprising: an incoming audio signal

(input – figure 5); and a plurality of audio signal delays (401, (501-1) – (501-3)), wherein each delay of said plurality of audio signal delays receive signal inputs comprising said incoming audio signal and a distinct high resonance positive feedback signal (via Gain 402), and includes a distinct selectable delay time corresponding to a period of a desired resonant frequency, wherein each delay of said plurality of audio signal delays combine said received signal inputs resulting in a combined signal (column 4, lines 13-30).

Levine discloses the system, wherein each outgoing signal generated by each delay of said plurality of audio signal delays is mixed by a mixer to produce at least one outgoing mixed audio signal (figure 5).

Levine discloses the system, wherein each outgoing signal generated by each delay of said plurality of audio signal delays is processed by a dedicated signal processor (114) resulting in a corresponding plurality of processed signals, wherein said plurality of processed signals are mixed by a mixer to produce at least one outgoing mixed audio signal (figures 2 and 5).

Levine discloses the system, wherein said dedicated signal processor comprises a flanger (701) swept at a rate corresponding to a sub-audio frequency. 8

Levine discloses the system, wherein said dedicated signal processor comprises a chorus (702) swept at a rate corresponding to a sub-audio frequency.

Levine discloses the system, wherein said system provides one signal processing layer of a multi-layered signal processing system (figure 2).

Levine discloses the system, wherein said selectable delay time for at least one delay of said plurality of audio signal delays is controlled by an incoming delay control signal; wherein said high resonance positive feedback signal of at least one delay of said plurality of audio signal delays is controlled by an incoming feedback control signal; and where mixer is controlled by an incoming mixer control signal (figures 3 and 4).

Levine dislcloses the system, wherein said dedicated signal processor for at least one delay of said plurality of delays is controlled by an incoming signal processor control signal.; wherein at least one of said plurality of delays is controlled in real-time by a measured attribute of said incoming audio signal; wherein said high resonance positive feedback signal of at least one delay of said plurality of audio signal delays is controlled in real-time by a measured attribute of said incoming audio signal (Figure 8).

Levine dislcloses the system, wherein at least one of said plurality of audio signal delays is controlled according to stored program control (810); wherein said mixer is controlled according to stored program control (810); wherein said dedicated signal processor for at least one delay of said plurality of delays is controlled according to stored program control (810).

Levine does not disclose providing distortion.

However, Okamura et al. disclose an audio input signal, wherein distortion is introduced into a combined signal, and wherein each delay of said plurality of audio signal delays generates an outgoing signal according to said selectable delay time, and wherein said outgoing signal comprises said combined signal and any distortion that has been introduced (figure 24; and column 22, lines 29-34).

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the teachings of Okamura et al., because the teachings allow more of a range of varying the sound by allowing distortion to be added to the mixed sound signal.

Claims 3, 5, 6, 10, 28,30-31, and 35, are rejected under 35 U.S.C. 103(a) as being unpatentable over Levine in view Okamura et al. as applied to claims 1, 2, 4, 7-9, 11-27, 29, 32-34, and 36-50 above, and further in view of Gerzon (5,555,306).

Levine and Okamura et al. are discussed above. Neither reference discloses panning or spatial location of the sound.

However, Gerzon discloses an input signal received by a plurality of delays, wherein a mixer separately provides low- speed auto-panning location modulation to each outgoing signal generated by each delay of said plurality of audio signal delays, wherein the dedicated signal processor further includes an auto-panner swept at a rate corresponding to a sub-audio frequency (see claims 15 and 34 of Gerzon).

Gerzon discloses the system, wherein said system is incorporated into a spatially-distributed timbral realization system (abstract; and column 24, lines 28-39 and lines 54-63).

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the teachings of Gerzon with Levine, because the teachings allow localization of the output sound, thereby creating a desired sound of the listener.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marlon T. Fletcher whose telephone number is 571-272-2063. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lincoln Donovan can be reached on 571-272-1988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MTF
07/23/2007

Marlon Fletcher
Primary Examiner